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GAMOCHAETA ARGYRINEA (ASTERACEAE) NATURALIZED IN CALIFORNIA

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ABSTRACT

Gamochaeta argyrinea is naturalized in the Lake Oroville area of Butte Co., California, first documented there in 1990 and again in 2000, its persistent presence confirmed in 2012. It probably arrived there from a locality in the southeastern USA.

Curation of UC and JEPS Asteraceae collections has brought attention to a previously unreported non-native species naturalized in the California flora.

GAMOCHAETA ARGYRINEA G.L. Nesom, Sida. 21: 718, figs. 1-4. 2004.

California. Butte Co.: ca. 1/8 mi NW of the Enterprise Bridge across Lake Oroville, E of the Enterprise Boat Launch Area, growing on fine damp bare disturbed granite soil, below the high water line of Lake Oroville, Foothill Woodland (destroyed), 850 ft, normal size plants, uncommon, scattered, 25 May 1990, *Lowell Ahart 6481* (UC, Figure 1); ca. 1/2 mi SW of the Enterprise Bridge across Lake Oroville, below the high water line of Lake Oroville, Foothill Woodland (destroyed), 850 ft, growing on dry bare white disturbed granite soil, large size plants, few plants seen, 16 Jun 1990, *Lowell Ahart 6523* (UC); ca. 5 mi (air) SW of Oroville, W of Larkin Road, ca. 1 1/4 mi S of the Oroville Airport, on the margin of the Thermalito Afterbay, on the W side of the access road to the boat ramp at the Thermalito Afterbay, damp red disturbed gravelly soil, freshwater marsh, 140 ft, common, normal size plants, 13 May 2000, *Lowell Ahart 8345* (JEPS; Figure 2).

Species collected by Ahart on the same day at each of the three Lake Oroville localities are characteristic of disturbed habitats and nearly half of them are not native to California. In 1990, with ***Ahart 6481***: *Agrostis avenacea*, *Chorizanthe membranacea*, *Filago californica*, *Juncus acuminatus*, *Juncus bufonius*, *Juncus tenuis*, *Lindernia dubia*, *Leontodon saxatilis*, *Polygonum hydropiper*, *Polypogon interruptus*, *Rumex acetosella*, *Silene antirrhina*, *Torilis arvensis*, and *Vicia americana*. In 1990, with ***Ahart 6523***: *Agoseris heterophylla*, *Alopecurus carolinianus*, *Apocynum cannabinum*, *Centaurium muehlenbergii*, *Centaurium tenuiflorum*, *Digitaria sanguinalis*, *Eragrostis cilianensis*, *Eriodictyon californicum*, *Pseudonaphalium stramineum*, *Herniaria hirsuta*, *Kickxia elatine*, *Lonicera interrupta*, *Polygonum hydropiper*, *Rorippa palustris*, *Scleranthus annuus*, *Uropappus lindleyi*, and *Veronica peregrina* subsp. *xalapensis*. In 2000, with ***Ahart 8345***: *Castilleja attenuata*,

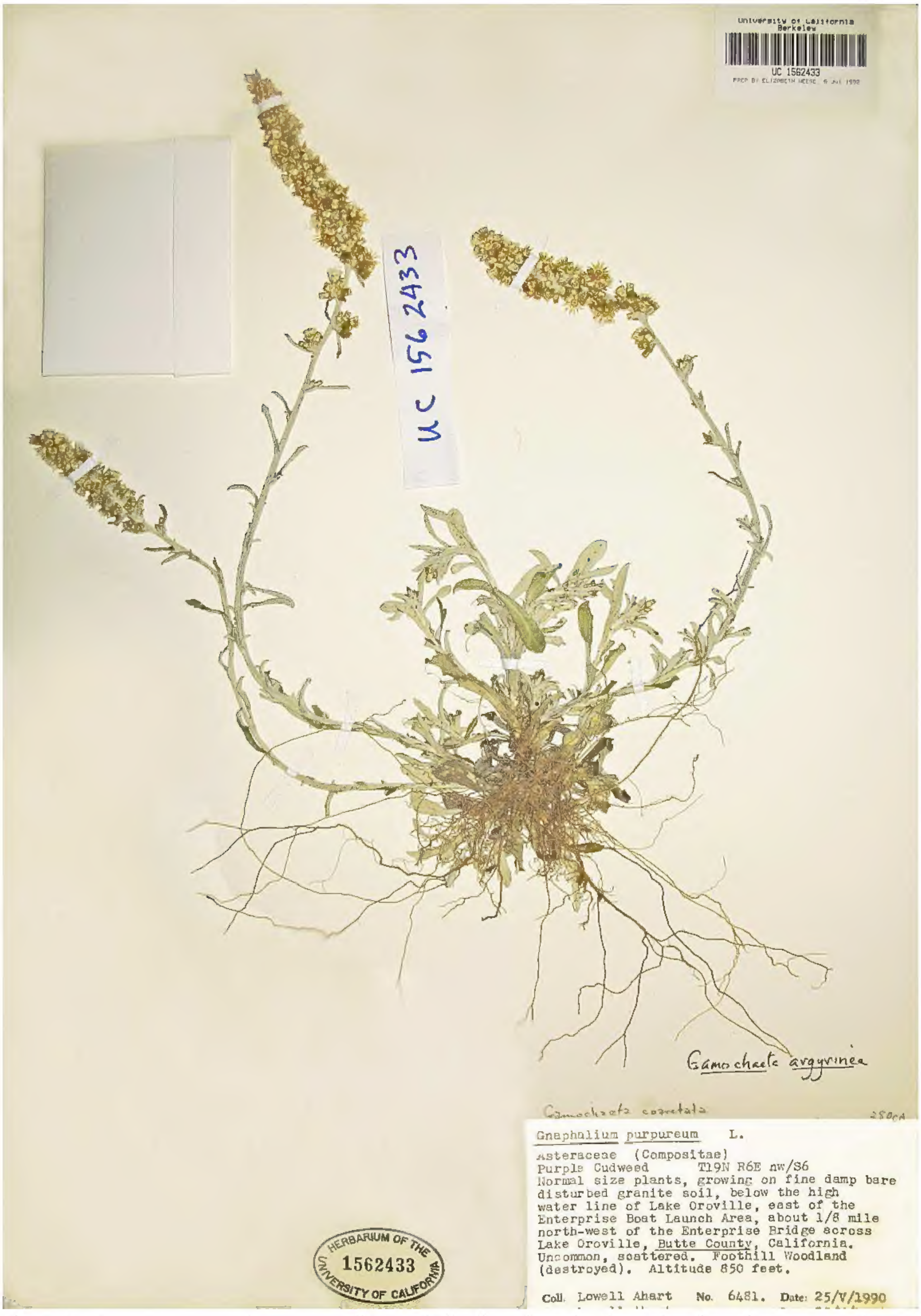
University of California
Berkeley
UC 1562433
156 2433
Gamochaeta argyrinea
Gamochaeta coarctata
Gnaphalium purpureum L.
Asteraceae (Compositae)
Purple Cudweed T19N R6E nw/S6
Normal size plants, growing on fine damp bare disturbed granite soil, below the high water line of Lake Oroville, east of the Enterprise Boat Launch Area, about 1/8 mile north-west of the Enterprise Bridge across Lake Oroville, Butte County, California. Uncommon, scattered. Foothill Woodland (destroyed). Altitude 850 feet.
Coll. Lowell Ahart No. 6481. Date: 25/V/1990
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Figure 1. *Gamochaeta argyrinea* from Butte County (UC), northwest of the Enterprise Bridge, 25 May 1990.

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Berkeley
JEPS 98564
JEPS 98 564
Gamochaeta argyrinea
Nesom 2011
Gamochaeta coarctata
Plants of California
Butte County
Gnaphalium purpureum L.
Asteraceae (Compositae)
T19N, R3E, southwest 1/4 Section 27.
Normal size plants, on damp red disturbed gravelly soil, on the margin of the Thermalito Afterbay, on the west side of the access road to the boat ramp at the Thermalito Afterbay, west of Larkin Road, about 1 1/4 miles south of the Oroville Airport, about 5 miles (air) southwest of Oroville. Common, Freshwater Marsh. Elevation 140 feet.
Lowell Ahart 8345. 13 May, 2000
Herbarium of California State University, Chico
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JEPS
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Figure 2. *Gamochaeta argyrinea* from Butte County (JEPS), margin of the Thermalito Afterbay, 13 May 2000.

Centunculus minimus, *Crucianella angustifolia*, *Eleocharis macrostachya*, *Galium tricornutum*, *Gastridium phleoides*, *Gastridium ventricosum*, *Juncus acuminatus*, *Lathyrus angulatus*, *Plagiobothrys stipitatus*, *Plantago coronopus*, *Plantago virginica*, *Pseudognaphalium stramineum*, *Ranunculus pusillus*, *Rorippa curvisiliqua*, *Trifolium cernuum*, *Trifolium dubium*, and *Triodanis biflora*. Records for these collections are from the Consortium of California Herbaria (2012).

Figure 3. *Gamochaeta argyrinea* at Thermalito Afterbay site, 17 May 2012.

On 17 May 2012, Strother and Moe found the *Ahart 6481* site to be under water and collected *Gamochaeta argyrinea* at the *Ahart 8345* site (Figure 3; Thermalito Afterbay, *Strother 1373*, UC, duplicates to MO and TEX). They scanned and searched roadsides along minor roads but saw no other gamochaetas.

The Enterprise Bridge localities are about 20 miles from the Thermalito Afterbay — boat ramps are at both places. Perhaps cypselae in mud on tires and/or trailers account for the transport from one boat ramp area to another as well as the original dispersal to California. The popularity of Lake Oroville for bass fishing makes this a plausible scenario.

Gamochaeta argyrinea has previously been known only from the southeastern USA (the type from North Carolina; Nesom 2004, 2006, 2007), where it reaches eastern Texas and Oklahoma at the westernmost extension of its range. It is essentially restricted to disturbed habitats and appears to have become widespread in the USA only recently.

The species most similar to *Gamochaeta argyrinea* appears to be *G. ustulata* (Nutt.) Holub, which is native to the Pacific Coast of the USA and southern British Columbia. Most of the other close relatives of *G. argyrinea* are from South America and it is perhaps native there, even though its occurrence has not been reported (Freire & Iharlegui 1997). In any case, it is likely that the Butte County plants are adventive from a locality in the southeastern USA.

ACKNOWLEDGEMENTS

We and the botanical community are indebted to Lowell Ahart and other collectors who have contributed (and continue to contribute) over the years and decades to documentation of plant distributions and introductions in California and beyond.

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